

## **2. Amendments to the Claims:**

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

### **Listing of Claims:**

1. (Cancelled).
2. (Currently Amended) A nanowire as claimed in claim ~~[[1]]14~~, ~~characterized in that~~wherein the second region has a length in axial direction of less than 20 nm.
3. (Currently Amended) A nanowire as claimed in claim ~~[[1]]14~~ ~~characterized in that~~wherein the first and the third region have an average diameter in radial direction of at most 10 nm.
4. (Currently Amended) A nanowire as claimed in claim 3, ~~characterized in that~~wherein the second region has a maximum diameter of 50 nm.
5. (Currently Amended) A nanowire as claimed in claim ~~[[1]]14~~, ~~characterized in that~~wherein the first region is n-type doped and the second region is p-type doped.
- 6.-13.(Cancelled).
14. (New) A nanowire, comprising:
  - a first region and a third region each having having quantization effects; and
  - a second region having a length of less than 100 nm, the second region adjoining the first and third regions and having a greater diameter than respective diameters of the

first and the third regions, wherein the nanowire further comprises one or more of: SiC, Si, SiGe, GaAs, InP and InAsP.

15. (New) An electronic device, comprising:

a first electrode and a second electrode, connected by a nanowire, which comprises:

a first region and a third region each having having quantization effects; and a second region having a length of less than 100 nm, the second region adjoining the first and third regions and having a greater diameter than respective diameters of the first and the third regions, wherein the nanowire further comprises one or more of: SiC, Si, SiGe, GaAs, InP and InAsP.

16. (New) An electronic device as claimed in claim 15, further comprising:

first and a second gate electrode, wherein a perpendicular projection of the first gate electrode on the nanowire overlaps the second region.

17. (New) An electronic device as claimed in claim 15, wherein the electronic device is an optoelectronic device.

18. (New) A nanowire, comprising:

a first region and a third region each having having quantization effects; and a second region having a length of less than 100 nm, the second region adjoining the first and third regions and having a greater diameter than respective diameters of the first and the third regions, wherein the nanowire further comprises more than one semiconductor material.

19. (New) A nanowire as claimed in claim 18, wherein the second region has a length in axial direction of less than 20 nm.

20. (New) A nanowire as claimed in claim 18, wherein the first and the third region have an average diameter in radial direction of at most 10 nm.

21. (New) A nanowire as claimed in claim 20, wherein the second region has a maximum diameter of 50 nm.

22. (New) A nanowire as claimed in claim 18, wherein the first region is n-type doped and the second region is p-type doped.

23. (New) A nanowire, comprising:

a first region and a third region each comprising a metallic material and having quantization effects; and

a second region comprising a semiconducting material and having a length of less than 100 nm, the second region adjoining the first and third regions and having a greater diameter than respective diameters of the first and the third regions.

24. (New) A nanowire as claimed in claim 23, wherein the second region has a length in axial direction of less than 20 nm.

25. (New) A nanowire as claimed in claim 23, wherein the first and the third region have an average diameter in radial direction of at most 10 nm.

26. (New) A nanowire as claimed in claim 25, wherein the second region has a maximum diameter of 50 nm.